ABSTRACT OF THE DISCLOSURE

Fe-Ni-Co alloy whose chemical composition contains, by weight: $32\% \leq Ni \leq 34\%$, $3.5\% \leq Co \leq 6.5\%$, $0\% \leq Mn \leq 0.1\%$, $0\% \leq Si \leq 0.1\%$, $0\% \leq Cr \leq 0.1\%$, $0.005\% \leq C \leq 0.02\%$, $S \leq 0.001\%$, $0.0001\% \leq Ca \leq 0.002\%$, $0.0001\% \leq Mg \leq 0.002\%$, the substantial remainder preferably being iron and impurities resulting from smelting; the chemical composition of the alloy furthermore satisfying the relationships: $Co + Ni \leq 38.5\%$, $Co + 0.5 \times Ni \geq 20\%$, $Co + 5 \times Ni \geq 165.5\%$ and $S \leq 0.02 \times Mn + 0.8 \times Ca + 0.6 \times Mg$. Use of the alloy for the manufacture of a shadow mask for a display cathode ray tube.